

RING OSCILLATOR WITH PEAKING STAGES

ABSTRACT OF THE DISCLOSURE

A ring oscillator with a plurality of delay stages having selectable active loads for selecting an R-C time constant that defines a delay through the delay stage. The ring oscillator oscillation frequency is a function of the selected R-C time constant, a selectable bias level, and the number of delay stages in the ring oscillator. In one embodiment, a MOSFET device gate-to-source capacitance is used with at least one selectable resistive device to form the R-C time constant. In an alternate embodiment, a plurality of parallel coupled resistive devices and parallel coupled capacitive devices are selectively coupled to the active load circuit to set the delay through the delay stage. The resistive devices are formed to be one of a resistor configured MOSFET device and a traditional resistive element. The capacitive devices are formed to be one of a capacitor configured MOSFET device and a traditional capacitive element.